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EXAMINER

LAM, VINH TANG

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,270	Applicant(s) FURIHATA ET AL.	
	Examiner VINH T. LAM	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 13-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/06/2007 & 12/19/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species 1 (FIGs. 1-7, Claims **1-12**) in the reply filed on 11/18/2008 is acknowledged.
2. Claims **13-17** are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species 2-11, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11/18/2008.

Specification

3. The disclosure is objected to because of the following informalities:
Typographical error.

“The horizontal and **horizontal** address decoders...” should be “The horizontal and **vertical** address decoders...” (Col. 4, [0067] & [0070])

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim **1** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitations “a graphic engine converting externally received **image data** into **first bitmap data**” and “**second bitmap data** developed from said **first bitmap data**” are not clear because:

What are the differences among image, first bitmap, and second bitmap data?

How and what process and device are involved in a controller/driver?

Why would there be a need for converting an image data into first bitmap data and then developing the second bitmap data from the first bitmap data?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims **1-3** are rejected under 35 U.S.C. 102(e) as being anticipated by **Chadha (US Patent Application Publication No. 2003/0184552)**.

Regarding Claim **1**, **Chadha** teaches a controller/driver comprising:

a work memory (Col. **3**, [0037], FIG. **6**);

a graphic engine converting externally received image data into first bitmap data, and storing said bitmap data into said work memory (Col. **3**, [0037], FIG. **6**);

a display memory receiving and storing second bitmap data developed from said first bitmap data stored in said work memory (Col. 3, [0037], FIG. 6); and

a driver circuit (inherently driving C columns and R rows) which receives said second bitmap data from said display memory, and drives a display panel in response to said second bitmap data received from said display memory (Col. 3, [0040], FIG. 6).

Regarding Claim 2, **Chadha** teaches the controller/driver according to claim 1, wherein said image data is described in a vector format (e.g. XML image file; Col. 2, [0033], FIG. 3).

Regarding Claim 3, **Chadha** teaches the controller/driver according to claim 1, wherein said image data includes compressed image data (e.g. GIF image file; Col. 2, [0033], FIG. 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Chadha (US Patent Application Publication No. 2003/0184552)** in view of **Yamazaki et al. US Patent No. 5726947**).

Regarding Claim **4**, **Chadha** teaches the controller/driver according to claim 1,

wherein said second bitmap data is developed on said display memory through data transfer of said first bitmap data from said work memory (Col. **3**, [0037], FIG. **6**).

However, **Chadha** does not teach that said data transfer of said first bitmap data from said work memory to said display memory is performed such that a set of data bits of said first bitmap data are transferred at the same time.

In the same field of endeavor, **Yamazaki et al.** teach the data transfer of the first bitmap data from the work memory to the display memory is performed such that a set of data bits of the first bitmap data are transferred at the same time (Col. **2**, Ln. **34-42**, FIG. **25**) for the benefit of improving accuracy of image transferring by having the controller/driver wherein the second bitmap data is developed on the display memory from the first bitmap data on the work memory and simultaneously produced a set of the first bitmap data.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Chadha** teaching of the controller/driver wherein the second bitmap data is developed on the display memory through data transfer of the first bitmap data from the work memory with **Yamazaki et al.** teaching of the data transfer of the first bitmap data from the work memory to the display memory is performed such that a set of data bits of the first bitmap data are transferred at the same time in order to benefit of improving accuracy of image transferring by having the controller/driver wherein the second bitmap data is developed on the display memory

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from the first bitmap data on the work memory and simultaneously produced a set of the first bitmap data.

Regarding Claim **5**, the controller/driver according to claim 4, wherein

Yamazaki et al. teach that

said first bitmap data includes a plurality of line data each associated with a line of pixels of an image represented by said second bitmap data to be displayed (Col. **2**, Ln. **45-53**, FIG. **25**), and

wherein said data transfer of said first bitmap data from said work memory to said display memory is performed such that each of said line data is transferred at the same time (i.e. transfer in parallel; Col. **2**, Ln. **34-42**, FIG. **25**).

Regarding Claim **6**, the controller/driver according to claim 5, **Yamazaki et al.** further teach:

a latch receiving said line data from said work memory, and temporally storing said received line data (Col. **2**, Ln. **43-45**, FIG. **25**).

wherein said display memory received said line data from said latch (Col. **2**, Ln. **42-53**, FIG. **25**).

Regarding Claim **7**, the controller/driver according to claim 5, **Yamazaki et al.** further teach:

a controller controlling said work memory, said display memory, and said driver circuit so that said data transfer of said first bitmap data from said work memory to said display memory is synchronous with readout of said second bitmap data from said display memory to said driver circuit (Col. **1**, Ln. **24-41**, FIG. **22**).

Regarding Claim **8**, the controller/driver according to claim 7, wherein **Chadha** teaches said data transfer of said first bitmap data from said work memory to said display memory is initiated in response to activation of a frame synchronization signal indicating to start displaying each image frame (Col. **5**, [0076], FIG. **13**).

Regarding Claim **9**, the controller/driver according to claim 7, wherein **Yamazaki et al.** teach said controller controls said display memory, and said driver circuit so that said data transfer of said first bitmap data from said work memory to said display memory does not overrun said readout of said second bitmap data from said display memory to said driver circuit (Col. **3**, Ln. **27-47**, FIG. **26**).

Regarding Claim **10**, **Chadha** teaches the controller/driver according to claim 1.

However, **Chadha** does not teach the internal structures of work and display memories and connections between them.

In the same field of endeavor, **Yamazaki et al.** teach:

wherein said work memory includes:

a plurality of first bit lines (Col. **7**, Ln. **4-5**, FIG. **1**).

a plurality of first word lines (Col. **7**, Ln. **4-5**, FIG. **1**), and

a plurality of first memory cells disposed at respective intersections of said first bit lines and first word lines to store therein said first bitmap data (Col. **7**, Ln. **5-6**),

wherein said display memory includes:

a plurality of second bit lines (Col. **7**, Ln. **7-8**, FIG. **1**), a plurality of second word lines (Col. **7**, Ln. **8-9**, FIG. **1**), and

a plurality of second memory cells disposed at respective intersections of said second bit lines and second word lines to store therein said second bitmap data (Col. 7, Ln. 9-10, FIG. 1),

wherein a number of said first bit lines is same as that of said second bit lines (Col. 7, Ln. 4-8, FIG. 1), and

wherein said first bit lines are connected to said second bit lines, respectively (Col. 7, Ln. 12-20, FIG. 1) for the benefit of improving the speed of transferring data by having a controller/driver wherein the second bitmap data is developed on the display memory through data transfer of the first bitmap data from the work memory and their specific internal structures and connections functioning in sequential and synchronous order.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Chadha** teaching of the controller/driver wherein the second bitmap data is developed on the display memory through data transfer of the first bitmap data from the work memory with **Yamazaki et al.** teaching the internal structures of work and display memories and connections between them in order to benefit of improving the speed of transferring data by having a controller/driver wherein the second bitmap data is developed on the display memory through data transfer of the first bitmap data from the work memory and their specific internal structures and connections functioning in sequential and synchronous order.

Regarding Claim **11**, the controller/driver according to claim 10, wherein **Yamazaki et al.** teach a number of said first word lines is identical to that of said second word lines (Col. 7, Ln. 4-8, FIG. 1).

Regarding Claim **12**, the controller/driver according to claim 10, **Yamazaki et al.** further teach a controller controlling said work memory, and said display memory, and said driver circuit (Col. 1, Ln. 23-40, FIG. 26),

wherein said driver circuit (53) is connected to said second bit lines (i.e. bus RAM 32a or 32; Col. 3, Ln. 39-41, FIGs. 25 & 26), and

wherein said controller is adapted to deactivate said display memory to allow said first bitmap data to be transmitted from said work memory to said driver circuit through said second bit lines (Col. 3, Ln. 39-44, FIG. 26).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Nose et al. (US Patent No. 7206003).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH T. LAM whose telephone number is (571)270-3704. The examiner can normally be reached on M-F (7:30-5:00) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571 272 1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VTL/

/Amare Mengistu/
Supervisory Patent Examiner, Art Unit 2629